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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/532,672

04/26/2005

Michihiko Takase

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513 7590 10/10/2008  
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EXAMINER

BURKHART, ELIZABETH A

ART UNIT

PAPER NUMBER

1792

MAIL DATE

DELIVERY MODE

10/10/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/532,672	<b>Applicant(s)</b> TAKASE, MICHIIKO	
	<b>Examiner</b> ELIZABETH A. BURKHART	<b>Art Unit</b> 1792	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 17 July 2008.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 6-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 6-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 April 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>4/1/08</u> .  | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

1. Claims 6-10 are pending in this application. Cancelled claims 1-5 and new claims 6-10 have been noted. The amendment filed 7/17/2008 has been entered and carefully considered.

#### ***Specification***

2. The substitute specification filed 7/17/2008 has been entered.

#### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shintani (JP 11-080952) in view of Sakemi et al ('394).

Shintani teaches a process for forming an MgO film onto a substrate of an AC type plasma display panel [0002] while maintaining a degree of vacuum in the deposition room within a certain range (Abstract). The amount of oxygen introduced into the deposition room is controlled and the amount of gas exhausted from the deposition room is controlled to maintain a certain degree of vacuum within the room [0002], [0004]-[0006]. Since both the amount of oxygen gas being introduced to the deposition room and the amount of gas exhausted from the deposition room are being controlled, one of ordinary skill in the art would have readily envisaged equilibrating these amounts to maintain the degree of vacuum within the deposition room at a desired value.

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Shintani does not teach the specific range in which the degree of vacuum is maintained.

Sakemi teaches a similar method of depositing a MgO film onto a substrate for a plasma display panel wherein the degree of vacuum during deposition is within the claimed range because the greater the vacuum is below  $10^{-4}$  torr ( $1.3 \times 10^{-2}$  Pa), the easier it is for MgO to vaporize which increases the growth rate of the film (Abstract, Col. 1, lines 30-40, Col. 2, lines 50-55, Col. 4, lines 54-58).

It would have been obvious to one of ordinary skill in the art at the time of invention by applicant to operate the process of Shintani under a degree of vacuum within the claimed range as suggested by Sakemi in order to vaporize the MgO more easily, which leads to an improved growth rate of the film.

Thus, claim 6 would have been obvious within the meaning of 35 USC 103 over the combined teachings of Shintani and Sakemi.

4. Claims 7 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shintani (JP 11-080952) in view of Sakemi et al ('394) as applied above and further in view of Hirano et al (US 2003/0030377).

Shintani and Sakemi do not teach introducing a gas selected from the group consisting of water, hydrogen, carbon monoxide, and carbon dioxide in addition to the oxygen and either adjusting the amount of oxygen introduced or adjusting the amount of the additional gas introduced to maintain the degree of vacuum.

Hirano discloses a method of forming a MgO layer onto a substrate for a plasma display panel, wherein the chamber has an inside atmosphere of hydrogen and oxygen

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[0032]. The hydrogen-containing atmosphere reduces the metal ion density of the MgO film [0044].

It would have been obvious to one of ordinary skill in the art at the time of invention by applicant to introduce hydrogen gas as suggested by Hirano to the oxygen atmosphere of Shintani in order to reduce the metal ion density of the MgO film. Since Shintani teaches controlling the amount of gas (oxygen) introduced, it would have been obvious to one of ordinary skill in the art to control the amount of any gases being introduced to maintain the desired degree of vacuum.

Thus, claims 7 and 8 would have been obvious within the meaning of 35 USC 103 over the combined teachings of Shintani, Sakemi, and Hirano.

5. Claims 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shintani (JP 11-080952) in view of Sakemi et al ('394) as applied above and further in view of Okuyama et al (JP 2001-243886).

Shintani and Sakemi do not teach introducing an inert gas in addition to the oxygen and adjusting the amount of inert gas introduced.

Okuyama teaches a method for forming an MgO film on a plasma display panel (Abstract) wherein a mixed gas containing an inert gas and oxygen may be introduced to the chamber during deposition in order to control membraneous quality of the film [0025].

It would have been obvious to one of ordinary skill in the art at the time of invention by applicant to introduce an inert gas as suggested by Okuyama along with the oxygen gas of Shintani in order to control membraneous quality of the MgO film.

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Since Shintani teaches controlling the amount of gas (oxygen) introduced, it would have been obvious to one of ordinary skill in the art to control the amount of any gases being introduced to maintain the desired degree of vacuum.

Thus, claims 9 and 10 would have been obvious within the meaning of 35 USC 103 over the combined teachings of Shintani, Sakemi, and Okuyama.

### ***Response to Arguments***

6. Applicant's arguments filed 7/17/2008 are directed to the new limitations in the claims. These limitations have been addressed in the rejections above.

### ***Conclusion***

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to ELIZABETH A. BURKHART whose telephone number is (571)272-6647. The examiner can normally be reached on M-Th 7-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy H. Meeks can be reached on 571-272-1423. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Elizabeth A Burkhardt/  
Examiner, Art Unit 1792

/Timothy H Meeks/  
Supervisory Patent Examiner, Art Unit 1792